Geometry honors problem sets

Circle problems

1. A bridge over a river has the shape of a circular arc. He span of the bridge is 24 meters. (The span is the length of the chord of the arc). The midpoint of the arc is 4 meters higher than the endpoints. What is the radius of the circle that contains this arc.

2. In the diagram below,  is a tangent, , , , and . Find .

 (Hint: Let  and )

3. Draw a square and its inscribed and circumscribed circles. Find the ratio of the areas of these two circles.

4. Draw an equilateral triangle and its inscribed and circumscribed circles. Find the ratio of the areas of these two circles.